

How to use
KODAK
CAROUSEL
850H
Projector

CAROUSEL



Congratulations on the purchase of your new KODAK CAROUSEL 850H Projector. You enjoy the luxury of automatic operation or remote-control operation. Throughout projection, your slides are kept in sharp focus by an automatic control—whether you show single slides, trays of slides, or stacks of slides with the optional KODAK CAROUSEL Stack Loader.

More Information—
After reading this manual, if you have questions about the use of your projector, write to Eastman Kodak Company, Photo Information, Dept. 841S, Rochester, New York 14650.

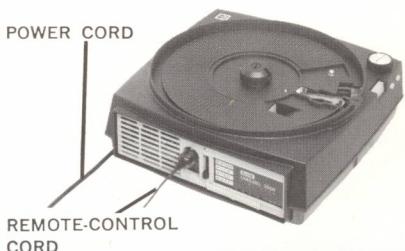
Before you start to use your new projector—learn these basic safety precautions. Keep them in mind whenever you handle or operate the equipment.

IMPORTANT SAFEGUARDS

1. Read and understand all instructions.
2. Close supervision is required when any appliance is used by those who may not understand the need for the following precautions:
 - Care must be taken as burns can occur from touching hot parts. Allow the projector to cool before replacing the projection lamp or cleaning lenses.
 - Do not operate an appliance with a damaged cord or if the appliance has been dropped or damaged—until it has been examined by a qualified service technician.
 - Be careful to place the electrical cord where you, your family, and your guests will not trip on it.
 - If an extension cord is necessary, a cord with a suitable current rating should be used. Cords rated for less amperage than the appliance may overheat.
 - Never yank the cord to pull the plug from an outlet. Grasp the plug and pull it to disconnect it.
 - This instruction manual contains directions for replacing a worn-out lamp and for cleaning the projector lenses. With these exceptions, do not disassemble the projector. Incorrect reassembly can cause electric shock hazard when the projector is used subsequently.

SAVE THESE INSTRUCTIONS

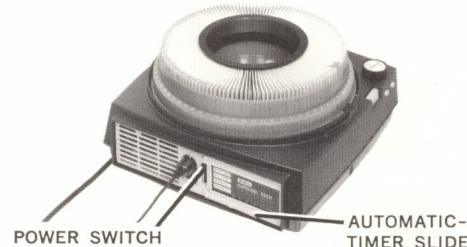
Only brief operating instructions are given on this page. Read on for important details.



1 Remove POWER CORD and REMOTE-CONTROL CORD from cord compartment (on underside of projector). Plug remote-control cord into rear of projector. Plug power cord into 110- to 125-volt, 60 Hz power outlet. See page 5.



2 Place loaded slide tray on projector with TRAY INDEX BAR opposite GATE INDEX. See page 8.



3 Set AUTOMATIC-TIMER SLIDE at M (manual). Slide POWER SWITCH to HIGH or LOW. See page 8.

4 Briefly push FORWARD BUTTON on projector or FOR (forward) button on remote control to project first slide on screen. See page 8.



5 Rotate FOCUS KNOB until projected image is critically sharp. Only this first slide requires focusing if all slides are in same type of mount. For auto-focus operation with intermixed types of slide mounts, see page 9 under "Focus."



6 Briefly push forward button on projector or on remote control to change slides. For immediate projection of any slide in tray, firmly press and hold down SELECT BAR, rotate tray to desired slide number, and then release select bar. See page 10.

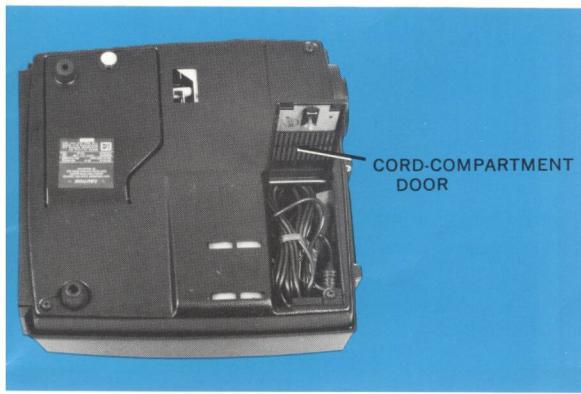
TABLE OF CONTENTS

INTRODUCTION	2	PROJECTOR CARE	11
SERIAL NUMBER	4	Projection-lamp replacement	11
SETTING UP	5	Cleaning	12
Power and remote-control cords	5	Thermal fuses	13
Screen and seats	5	Emergency slide-tray removal	13
Projection distances	6	PROJECTION TIPS	13
Zoom lens	6	Long-run applications	13
SLIDE TRAY	7	Editing slides	13
Loading slide tray	7	Projecting 110 slides	13
Placing slide tray on projector	8	AUXILIARY EQUIPMENT	14, 15
PROJECTING SLIDES	8	SERVICE FACILITIES	16
Elevation	8	WARRANTY	16
Forward and reverse buttons	8		
Focus	9		
Automatic timer	9		
Remote control	9		
Random selection of slides in trays	10		
Removing slide tray	10		
Showing single slides	10		
After the show	10		

SERIAL NUMBER—The serial number of your projector is stamped on the bottom of the projector near the cord compartment. Make a note of this number for your records.

Equipment subject to minor appearance changes.

SETTING UP



Projection-Lamp Tips

- Your projector is equipped with a HIGH-LOW switch—use of the LOW position gives lamp life up to three times as long.
- Rough treatment of the projector may damage the projection lamp.
- Allow for unrestricted flow of air to the intake vents on the bottom and side of the projector, and the exhaust vent at the rear.
- Projector operation on line voltages above 120 volts greatly reduces the lamp life.
- Unplug the power cord before changing the lamp.

POWER AND REMOTE-CONTROL CORDS

Place the projector, bottom side up, on a table. Slide the latch on the CORD-COMPARTMENT DOOR in the direction of the arrow marked OPEN. Open the cord-compartment door and remove the remote-control cord. The power cord is permanently attached to the projector; slide it into the slot in the cord-compartment opening. Then close and latch the door. Turn the projector upright.

Plug the remote-control cord into the remote-control socket at the rear of the projector. The *small* dot on the plug should be upward when the plug is in the socket.

Plug the power cord into a suitable electrical outlet. Your CAROUSEL Projector operates on 110- to 125-volt, 60 CPS (Hz) alternating current only. (If you plug your projector into a different electrical source, the projector may be damaged.)

SCREEN AND SEATS

Because slides may be square, horizontal, or vertical in format, a square screen is usually most convenient. It should be large enough for easy viewing by everyone present. If possible, your projector should be at the same level as the center of the screen.

For easy viewing, your audience should not be farther from the screen than six times the longer dimension of the projected image. See the chart listing projector-to-screen distances on the next page. Place the seats as close as possible to both sides of the beam thrown by the projector. The picture appears most brilliant and lifelike when you are seated near the projected beam.

APPROXIMATE DISTANCE IN FEET FROM PROJECTOR TO SCREEN
(KODAK Projection EKTANAR C and EKTANAR Lenses)

Long Dimension of Projected Picture	126 Slides (28 x 28 mm)					135 Slides (24 x 36 mm)					110 Slides (13 x 17 mm) in 2 x 2-Inch Mounts or Adapters		
	3-inch* Lens	102 mm 4-inch* Lens	127 mm 5-inch* Lens	7-inch* Lens	102-152 mm 4" to 6" * Zoom Lens	3-inch* Lens	102 mm 4-inch* Lens	127 mm 5-inch* Lens	7-inch* Lens	102-152 mm 4" to 6" * Zoom Lens	2½-inch* Lens	3-inch* Lens	102 mm 4-inch* Lens
40"	10	13½	17	23½	13½ to 20	8	10½	13	18½	10½ to 16	14	16½	22
50"	12½	16½	21	29	16½ to 25	10	13	16½	23	13 to 19½	17	20½	27½
60"	15	20	25	34½	20 to 30	11½	15½	19½	27	15½ to 23½	20½	24½	33
70"	17½	23	29	40½	23 to 34½	13½	18	22½	31½	18 to 27	24	28½	38
84"	20½	27½	34½	48	27½ to 41½	16	21½	27	37½	21½ to 32	28½	34½	45½

*These lenses shown in inches are recommended for slides mounted in glass. See page 15 for list of lenses.

KODAK PROJECTION EKTANAR C ZOOM LENS, 102 to 152 mm f/3.5

KODAK PROJECTION EKTANAR ZOOM LENS, 4 to 6-inch f/3.5

If your projector is equipped with either of these optional lenses, you can vary the size of the projected image to fill a screen without changing the projector-to-screen distance.

Using Zoom Lens

1. Install the zoom lens by moving the focus knob toward the side of the projector and guiding the lens into the projector. Insert the lens far enough into its recess so that the gear teeth on the lens

barrel will be engaged by the gear on the focus-knob shaft.

2. Rotate the focus knob until the projected image is sharp.
3. Rotate the front part of the lens barrel until the image fills the screen.
4. To obtain maximum image sharpness and the desired image size, you may need to repeat steps 2 and 3 alternately.

SLIDE TRAY

Furnished with your projector is the KODAK CAROUSEL TRANSVUE 140 Slide Tray. This tray is made of a translucent material which allows you to see the slide-identification numbers on the tray without turning on the room lights. It holds 140 slides in 2 x 2-inch cardboard or thin plastic mounts (not glass or metal mounts) up to $\frac{1}{8}$ inch thick. Since this tray was designed to hold as many slides as possible, the slide compartments in the tray are quite narrow. For this reason, your slide mounts should be in good condition. Mounts which are warped or bent may fail to drop from the tray into the projector. (If this happens, straighten the mount with your fingers or place the slide in a new mount, such as a KODAK READY-MOUNT.)

Clip off all mount corners that are frayed. Do not attempt to project slides mounted with loose or sticky tape.

As the tray revolves, the number of the slide being projected will be opposite the gate index on the projector.

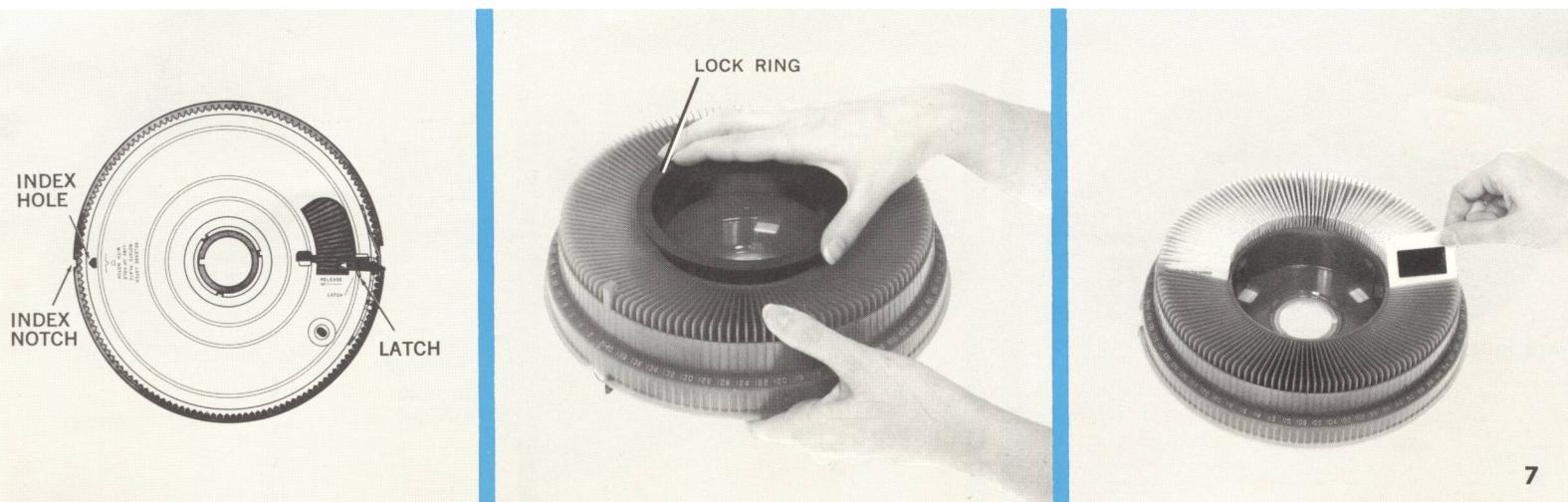
(Additional slide trays can be obtained from your dealer; see page 14.)

LOADING SLIDE TRAY

Check the bottom of the tray to make sure the INDEX HOLE is opposite the INDEX NOTCH. If it isn't, slide the LATCH in the direction shown by the arrow, and turn the bottom plate until the index hole points to the index notch. Then release the latch.

Remove the LOCK RING from the tray by turning the ring in the direction of the arrow marked UNLOCK; then lift off the ring. Insert a slide in each slot in the tray, with the top of the picture down. The printed border, or trademark side, of each cardboard-mounted slide—or emulsion (dull) surface of a slide mounted in plastic—should face the next lower number. For example, the bordered, trademark (or emulsion) side of slide No. 2 should face toward slide No. 1, No. 3 toward No. 2, etc.

Replace the lock ring, turning it in the direction of the arrow marked LOCK until the ring is secure on the tray.



PROJECTING SLIDES

PLACING SLIDE TRAY ON PROJECTOR

Place the loaded slide tray on the projector so that the hole in the center of the tray fits over the center post on the top of the projector; then turn the tray slowly in a clockwise direction until the TRAY INDEX BAR is opposite the GATE INDEX on the projector. The tray will drop down into operating position on the projector. If the tray does not drop easily into place, check the alignment of the index hole and the index notch as described under "Loading Slide Tray" on page 7.

NOTE: The tray will drop farther down on the projector during the first change cycle.

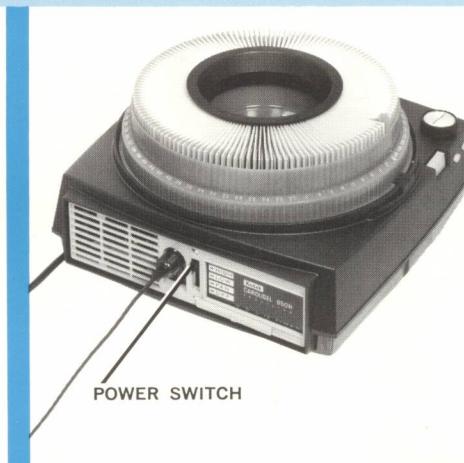
Turn on the projection lamp by sliding the POWER SWITCH to HIGH (300-watt illumination) or LOW (255-watt illumination). Briefly press the FORWARD BUTTON on the projector or the FOR (forward) button on the remote control to put the first slide in viewing position.

ELEVATION

To center the projected image on the screen vertically, elevate the front of the projector by turning the ELEVATING WHEEL. If the image is not aligned horizontally, an adjustment may be made with the LEVELING FOOT.

FORWARD AND REVERSE BUTTONS

FORWARD and REVERSE BUTTONS, located on the side of the projector, control the direction in which the tray rotates.



Briefly press the forward or reverse button to change slides in the desired direction. You must press the reverse button **firmly**.

FOCUS

Let the projector warm up for about 30 seconds. Focus for maximum sharpness at the center of the screen image by rotating the **FOCUS KNOB**. You will need to focus only the first picture if all slides are in the same type of mount.

Under special conditions—for example, when you are projecting slides in intermixed types of slide mounts—you may need to readjust the focus manually.

To demonstrate extreme focus changes, place cardboard-mounted slides in the tray with every other slide in backwards. You can see the action of the automatic focus system by watching the movement of the focus knob or by watching the screen image.

NOTE: A matte-surface (write-on) slide or a mount without film can cause the focus motor to run continuously.

AUTOMATIC TIMER

The automatic timer has four settings—M (manual), 5, 8, and 15 (seconds). Set the **AUTOMATIC-TIMER SLIDE** for the number of seconds you desire and the projector will change slides automatically. Set the automatic-timer slide at M for manual operation. (You can interrupt the automatic operation at any time by use of the forward or reverse button on the projector or on the remote control.)

REMOTE CONTROL

The remote control has both **FOR** (forward) and **REV** (reverse) buttons for controlling the direction in which the slide tray rotates. Briefly press either the forward or the reverse button to change slides in the desired direction. You must press the reverse button **firmly**.

IMPORTANT: If you do not press the reverse button firmly, the tray may rotate in a forward direction.



RANDOM SELECTION OF SLIDES IN TRAYS

To project a particular slide in a tray:

1. Press the SELECT BAR firmly and *hold* it down.
2. Rotate the tray until the number of the slide you want to project is opposite the gate index on the projector.
3. Release the select bar; the desired slide will be projected immediately.

REMOVING SLIDE TRAY

1. With the projector turned on, press the SELECT BAR firmly and hold it down.
2. Rotate the tray until the tray index bar is opposite the gate index.
3. Release the select bar and then lift off the tray.

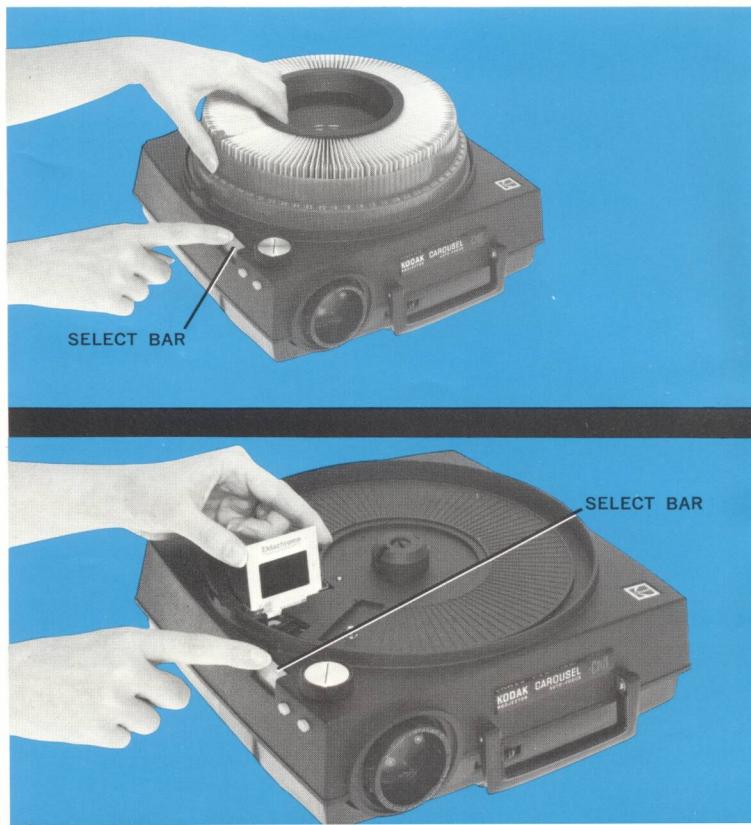
SHOWING SINGLE SLIDES

1. With the projector turned on, insert a slide (correctly oriented) into the projector gate. Push the slide down into the gate as far as it will go.
2. After viewing the slide, press the SELECT BAR to eject the slide from the gate. You can now insert another slide into the gate. (Slides up to $\frac{1}{8}$ inch thick can be projected by this method.)

AFTER THE SHOW

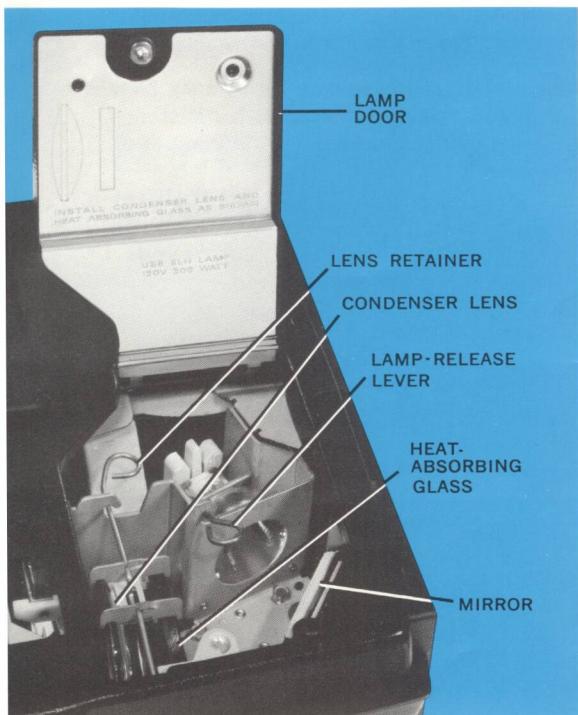
1. Remove the tray; then slide the power switch to OFF.
2. Lower the front of the projector by turning the elevating wheel. Retract the leveling foot.
3. Retract the lens by turning the focus knob counter-clockwise.

4. Unplug the power and remote-control cords. Fold the power cord in about 4-inch lengths and place it in the cord compartment. Fold the remote-control cord by placing the ends together and folding it in about 4-inch lengths. Place it in the cord compartment.



PROJECTOR CARE

Your CAROUSEL Projector requires no lubrication; all bearings are self-lubricating.



PROJECTION-LAMP REPLACEMENT

Your projector is equipped with a code ELH projection lamp with a rated life of 35 hours. There are also two special-application lamps available. For longer lamp life (but less brightness), use a code ENH lamp with a rated life of 175 hours. For 30 percent greater brightness than offered by the code ELH lamp, use a code ENG lamp with a rated life of 15 hours. (Use of high-brightness lamps may cause some buckling or premature fading of your slides.)

All of the lamp-life ratings given above are for projectors with the lamp switch set at HIGH. Lamp life can be extended by as much as three times by using the LOW setting.

It's a good idea to keep a spare projection lamp on hand. If the lamp should burn out during use, set the power switch to FAN to speed cooling; then remove the slide tray. When the projector and lamp have cooled sufficiently, turn the projector off and unplug the power cord.

Turn the projector bottom side up. Rotate the coin-slotted screw in the LAMP DOOR counterclockwise until the door can be opened.

CAUTION: Be certain that the projector and the projection lamp have cooled before you remove the lamp.

Push the LAMP-RELEASE LEVER down and to the side until it is free of its retaining clip; then raise the lever all the way, grasp the lamp, and remove it.

Insert a new lamp into the socket with a prong of the lamp in each slot of the socket and with the longer sides of the lamp base parallel to the projector base. *Do not touch the transparent portion of the lamp.* If you accidentally get fingerprints on the lamp, wipe it carefully with a clean, soft cloth moistened with rubbing alcohol. Lower the lamp-release lever to seat the lamp; then push downward on the lever and slide it under its retaining clip. With your forefinger, press down firmly on the reflector of the lamp to be sure that the lamp is correctly seated. Next, firmly push the socket toward the lamp. Close and fasten the lamp door.

CLEANING

To get the brightest, sharpest screen images, keep the optical system of your projector clean. Dust or fingerprints on the projection or condenser lens will reduce the brightness of the screen image and will cause it to appear unsharp or low in contrast.

Projection Lens

Turn the focus knob clockwise until the lens is out as far as it will go. Carefully move the focus knob toward the side of the projector as you withdraw the projection lens. Blow any dust or dirt from the lens.

With a material such as KODAK Lens Cleaning Paper or a soft, clean, lintless cloth, gently wipe the front and rear surfaces of the lens. If moisture is required, breathe on the lens surface or use a drop of cleaner such as KODAK Lens Cleaner on the paper or cloth.

Replace the lens by again moving the focus knob toward the side of the projector and guiding the lens back into position. Insert the lens far enough into its recess so that the gear teeth on the side of the lens barrel will be engaged by the gear on the focus-knob shaft.

Condenser Lens, Heat-Absorbing Glass, and Mirror

CAUTION: Heat-absorbing glass may shatter. Handle only with gloves. Keep glass covered with a cloth or other material while out of projector.

Turn the projector bottom side up. Open the LAMP DOOR as described on page 11. Push the LENS RETAINER downward until it is free of its retaining clip; then raise the retainer as far as it will go. Carefully lift out the CONDENSER LENS and the HEAT-ABSORBING GLASS, and gently place them on a soft cloth.

Clean both sides of the condenser lens and the heat-absorbing glass with KODAK Lens Cleaning Paper or a soft, clean, lintless cloth. Be careful not to leave fingerprints on any of the surfaces. Replace the lens and heat-absorbing glass in their original locations, with the flatter side of the condenser lens toward the front of the projector.

NOTE: Failure to position the large condenser lens correctly causes the focus motor to run continuously.

Gently clean the surface of the MIRROR with KODAK Lens Cleaning Paper or a soft, clean, lintless cloth moistened with KODAK Lens Cleaner. Close and fasten the lamp door.



THERMAL FUSES

Your projector is equipped with thermal fuses to prevent overheating and possible damage to the projector in case of exhaust-fan or motor failure. If overheating causes the fuses to open, the projector will not operate. The projector will require factory or repair-station attention to make it run again. Refer to the service facilities listed at the back of this manual.

PROJECTION TIPS

LONG-RUN APPLICATIONS

Allow for unrestricted flow of air through the projector openings. If the projector is used in a window display or in a cabinet, provide an adequate outlet for the warm air expelled from the rear grille vent. The air circulating through the projector should be as dust-free as possible.

EDITING SLIDES

If you want to edit your slides, you may project them singly, as described on page 10. Or place a tray of slides on the projector. Remove the lock ring from the tray. To edit a slide after viewing, firmly press and hold down the select bar, and remove the slide from the tray. You can then reorient the slide or replace it with another slide. (The optional KODAK CAROUSEL Stack Loader, described on page 15, provides a convenient method for editing your slides.)

PROJECTING 110 SLIDES

When you have 110-size slide film processed by Kodak, it will be returned to you in 2 x 2-inch slide mounts.

You may request mounting of size 110 film in 30 x

EMERGENCY SLIDE-TRAY REMOVAL

If the slide-changing mechanism should become inoperative because of a defective slide (see page 7), a foreign object, etc, turn the coin-slotted TRAY-REMOVAL SCREW in either direction, as far as it will go, to retract the tray lock. While holding the screw in this position, lift off the tray. When you remove the tray in this manner, turn the tray upside down and realign the index notch and index hole as described on page 7; then set the tray to one side. Remove the defective slide from the projector by pushing downward on the select bar, or if necessary, pull the slide from the gate by hand. Replace the tray on the projector.

30 mm mounts from the laboratory that processes your film. This service is available at no extra charge from Kodak Color Processing Laboratories in the U.S. and Canada, as well as other processing laboratories, if you request it at the time of processing.

A slide in a 30 x 30 mm mount cannot be used in your projector unless it is placed in a 2 x 2-inch adapter (shown on page 15). To obtain large screen images when you project 110 slides, use a short-focal-length lens, such as a 2 1/2-inch or 3-inch KODAK Projection Lens.



AUXILIARY EQUIPMENT

KODAK Projection Screen (40 x 40 inches)

Designed for use at home with your projector. The KODAK Projection Screen is made of mildew-resistant fabric with a highly reflective glass-beaded surface for bright screen images. The screen has easy-opening legs and can be adjusted for overall height from the floor.

KODAK CAROUSEL Slide Tray

Additional slide trays to accommodate 80 or 140 slides, supplied in attractive bookshelf-type storage boxes, are available from your dealer. Each box contains an identification card and tray sticker.



14

KODAK CAROUSEL Projector Case, Model D

This lined compartment case accommodates your projector, a slide tray in its carton, and such Kodak accessories as a Stack Loader, Slide Clip set, zoom lens, spare lamp, or extension cords. It is constructed of nylon-stitched brown simulated leather with panels that are reinforced with ebony board. All hardware is brass-finished.

KODAK CAROUSEL Slide Tray Case

This handsome case will accommodate three slide trays or a lesser number with room for your miscellaneous equipment.

It is a matching case to the KODAK CAROUSEL Projector Case, Model D.



KODAK Remote Extension Cord, 25-foot

Extends the range of the 12-foot remote-control cord so that you can operate the projector from a location near the screen. Up to 4 extension cords can be added to accommodate most projection distances.

KODAK CAROUSEL Sound Synchronizer, Model 3

This unit permits you to use a stereo record/playback tape recorder that is equipped with an external speaker jack as a programmer with your projector.



KODAK CAROUSEL Stack Loader

Lets you project and edit up to forty 2 x 2-inch slides in cardboard or very thin plastic mounts (or up to thirty 110 slides in 2 x 2 adapters) without loading them into a tray.

KODAK Slide Clip (for KODAK CAROUSEL Stack Loader)

Makes handling stacks of slides easier than ever—no loose slides to slip out of your hands! Each clip holds up to 36 slides in cardboard or plastic mounts up to .050 inch (1.27 mm) thick, or up to 25 slides in 2 x 2 adapters for 110 slides. The label on each clip provides space for slide identification.

A set of 12 clips provides compact, low-cost storage for up to 432 slides in an attractive bookshelf-type storage box.

KODAK 2 x 2 Adapter for 110 Slides

If you have slides that are in 30 x 30 mm mounts, snap each 110 slide into an adapter for projection with your CAROUSEL Projector. Project the slides singly, in trays, or with the optional KODAK CAROUSEL Stack Loader. Adapters are supplied in boxes of 20.



KODAK Projection Lenses (3)

(Curved-field lenses for slides mounted in cardboard or other non-glass mounts)

KODAK Projection EKTANAR C Lens, 102 mm f/2.8

KODAK Projection EKTANAR C Lens, 127 mm f/2.8

KODAK Projection EKTANAR C Zoom Lens, 102 to 152 mm f/3.5

KODAK Projection Lenses (6)

KODAK Projection EKTANAR Lens, 2½-inch f/3.5

(recommended only for 110 slides

in 2 x 2-inch mounts or adapters)

KODAK Projection EKTANAR Lens, 3-inch f/3.5

KODAK Projection EKTANAR Lens, 4-inch f/2.8

KODAK Projection EKTANAR Lens, 5-inch f/2.8

KODAK Projection EKTANON Lens, 7-inch f/3.5

KODAK Projection EKTANAR Zoom Lens, 4 to 6-inch f/3.5



FULL ONE-YEAR WARRANTY

This Kodak projector is warranted by Kodak to function properly for one year from the date of purchase. This warranty does not cover the projection lamp. Kodak makes no other express warranty for this projector. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Carefully read and follow the instructions in the manual to get good results and prevent damage to your projector.

If this Kodak projector does not function properly within one year after purchase, Kodak will repair it without charge. If Kodak is unable to repair it, the option of replacement or refund of the purchase price will be available. These remedies are not available if the projector is damaged by misuse or other circumstances beyond Kodak's control, or if the improper functioning of the projector is caused by failure to follow the care and operating instructions in the manual.

Repair, and the option of replacement or refund in the event that Kodak is unable to repair the projector, are Kodak's only obligations. Kodak will not be responsible for any consequential or incidental damages resulting from the sale or use of this projector, even if loss or damage is caused by the negligence or other fault of Kodak. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.)

For assistance in using this projector, contact a dealer in Kodak products or one of the Kodak Consumer Centers located in the United States. For service on this projector, return the projector through a dealer in Kodak products, one of the Kodak Equipment Service Centers listed here, or a Kodak Consumer Center. Enclosing a note with the projector giving details of the problem and date of purchase will help Kodak return the projector promptly.

SERVICE FACILITIES

If your Kodak projector should require service, complete facilities are provided at the following Kodak Equipment Service Centers. For fastest service, send your projector to the Service Center nearest you.

9100 Alcosta Blvd., San Ramon, California 94583

12100 Rivera Road, Whittier, California 90606

5315 Peachtree Industrial Blvd., Chamblee, Georgia 30341

1122 Mapunapuna Street, Honolulu, Hawaii 96819

1901 West 22nd Street, Oak Brook, Illinois 60521

Route 130, P.O. Box 1334, Dayton, New Jersey 08810

800 Lee Road, Rochester, New York 14650

2800 Forest Lane, Dallas, Texas 75234



Consumer Markets Division • Rochester, New York 14650

Pt. No. 634577c

12-79-BE

Printed in the United States of America

KODAK, CAROUSEL, EKTANAR, EKTANON, TRANSVUE, and READY-MOUNT are trademarks.